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<b>(21) International Application Number:</b> PCT/NO95/00038 <b>(22) International Filing Date:</b> 20 February 1995 (20.02.95) <b>(71)(72) Applicant and Inventor:</b> ERIKSEN, Marit [NO/NO]; P.O. Box 43, N-9392 Stonglandseidet (NO).		<b>(81) Designated States:</b> CA, DK.  <b>Published</b> <i>With international search report.</i> <i>In English translation (filed in Norwegian).</i>
<b>(54) Title:</b> THERAPEUTIC SKIN CREAM  <b>(57) Abstract</b>  A mixture of refined seal oil, beeswax, tree tar and/or aromatic flower oils, with a therapeutic effect on skin diseases, for external use on the skin.		

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## THERAPAUTIC SKIN CREAM

The invention concerns a mixture of seal oil, beeswax, with tree tar and perfume eventually added, with a therapeutical effect on skin diseases, as for example psoriasis, atopic exema, dry skin and broken lips.

Seal hunting has taken place for at least a thousand years. The meat has been used for food, the skin for clothing and other useful things, and the blubber for different oil products.

Seal oil has had the same usage as whale oil. Among other things it has been used in lamps to create light, and also as a nutrition added to the food ordinary consumed by the population. An other use of the oil has been as a base for paint, called oil paint.

The effect of the oil adjusted the human body has been known for many years. Seal- and whale oil has roughly the same structure as ordinary fish oil. Science has recently discovered that the combination of fatty acids from seals and whales are somewhat better and more useful for the human body. This concerns the number and amount of s.k. monosaturated fatty acids.

The combination of fatty acids in seal oil is described in the following way: The type of fatty acid is written in parenthesis, the first number is the amount of carbonatoms, number after the colon is the amount of double bindings in the fatty acid. The combination given in areal % concerns the refined seal oil. All oil used in the product concerned is refined.

Saturated fatty acids: 12,5 15,4 (14:0, 16:0 18:0)

Monounsaturated fatty acids: 47,8 58,9 (14:1, 16:1, 18:1, 20:1, 22:1, 24:1)

Polyunsaturated fatty acids: 24,7 2,7 (18:2, 18:3, 18:4, 20:4, 20:5, 22:5, 22:6)

Vitamin E: 1,0 mg./g oil

Kolesterol: 1,3 mg./g oil

Seal oil has never earlier been used for medical purposes.

Lately there has been different scientific experiments around the medical effects of the seal oil. By now, there are very few scientific works to support that the seal oil has such effect. The science has so far mostly been done by The Norwegian Institute of Fisheries and Aquaculture, and the University of Tromsø. Among other documentation we mention "Some possible effects of dietary monosaturated fatty acids on cardiovascular disease" , by E. Elvevoll, O.Moen, R.L. Olsen and J. Brox, Atherosclerosis, 81(1990) p. 41 74, and "alternative use of the seal oil", by Jenssen, final report publishes by NFFR 3001-2300.043.

The research and science has so far been directed to the effects of internal use of the oil.

The cream contains two main components, seal oil, described earlier in this application, and beeswax.

Added to these main components are mixtures of tar and aromatic oils.

The second component is beeswax, which contains many different, and partly unidentified components.

The known components are ca. 70 % complicated fatty acids, 15 % organic acids, 12% carbohydrates and 1 % free alcohols. Beeswax is also rich in A-vitamins, with 4044 I.E. pr 100 kilograms.

The contents of beeswax is dependent on many variable factors, like where it is harvested, and time of year. The chart on the next page shows an analysis of beeswax from different times in the period of januar til july, and is made by the Norwegian Honey Harvesters Organization during 1991.

Date of production:	18.02	05.03	03.04	02.05	18.06	01.07	r.verdi
Number of acids:	18,9	18,2	23,1	23,1	22,4	22,4	17-24
Number of esters:	78,5	79,2	76,4	77,1	75,0	74,3	66-81
Number of saponification:	97,4	97,4	99,5	100,2	97,4	96,7	min.95%
Number of equivalents:	4,1	4,3	3,3	3,3	3,3	3,3	3,3-4,3
Melting point	62,0	62,5	62,0	62,0	63,0	62,5	62-65
Colour	G.br	G.br.	G.br.	G.br.	G.br.	G.br.	
Smell	Honn.	Honn.	Honn.	Honn.	Honn.	Honn.	
WeightG/cm3:	0.968	0.967	0.962	0.960	0.962	0.961	

In the last part of table 2 and 3 there are enshortenments for colour and smell characterized by the following

Y.Br.= Yellow-Brown, Honn. = Honey.

The parameters on the left side of the table is given a closer explanation underneath.

Number of acids: The beeswax contains acid. This acid is free, and is made during the storing of the wax, by hydrolysis. The number of acid characterizes the quality of the bees wax. You can measure the number of acid by titration with g/KOH/g. It means by adding lye.

Number of saponification: Gives a distinction for the size of the molecules in the fatty acids of the wax. Big number means smaller molecules, and is a quality demand for beeswax. The border is between 95 and 100.

Number of esters: Is made of acid and alcohol separated in water. Esters are therefore considered anhydric connections between acid and alcohol. Wax is a big ester. Beeswax consist of esters and valuable alcohols. The Ester number is therefore an expression for how much ester it is compared to alcohol.

Beeswax today is well known for a certain antibiotic effect, and have among others turned out to be a positive help in the treatment of skin tuberculoses.

The cream can eventually also contain tree-tar. This contains resin and different drug substances brought forward by burning the trees in a special way. The tar develops as perspiration " from the tree-roots, during this slow burning. The exact mixture is dependent on factors as which kiln is being used, what sort of trees are being burnt, how slow/fast the burning is done, and also what combination of trees which are used.

To achieve a pleasant smell, the skin cream can be mixed with specific flower oils which have aromatic scents, at the same time as these oils are used in the homeopathic medicine for different types of skin disease.

This specific cream is made by heating the beeswax to the melting point, at a temperature of 60 -65 degrees C. The rest of the components are then heated to a similar temperature, and mixed in with the wax.

## PATENTCLAIMS

1. A therapeutic mixture for external use on the skin, characterized by containing (50-80)% seal oil, (0-7)% tree tar, (20-50)% beeswax and eventually one or several aromatic oils.
2. A therapeutic mixture for external use on the skin, as mentioned in claim 1, characterized by the beeswax, which among other contents 70 % complicated fatty acids, 19% inorganic acids 12 % carbohydrates and 1 % free alcohols.
3. A therapeutic mixture for external use on the skin, as mentioned in claim 1, characterized by the seal oil, which contains (12,5- 15,4) saturated acids, (47,8-58,9)% monounsaturated fatty acids, (24,7 - 32,7)% polyunsaturated fatty acids, 1,0 mg/g oil vitamin E, and 1,3 mg/g oil cholesterol.
4. A therapeutic mixture for external use on the skin as mentioned in claim 1, characterized by the contents of the saturated fatty acids of the seal oil mainly is the types 14:0, 16:0 and 18:0.
5. A therapeutic mixture for external use on the skin as mentioned in claim 1, characterized by the monounsaturated fatty acids in the seal oil, which mainly is of the types 14:1, 16:1, 18:1, 20:1, 22:1, 24:1.
6. A therapeutic mixture for external use on the skin as mentioned in claim 1, characterized by the polyunsaturated fatty acids in the seal oil mainly is of the types 18:2, 18:3, 18:4, 20:4, 20:5 22:5, 22:6.



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 95/00038

## A. CLASSIFICATION OF SUBJECT MATTER

IPC6: A61K 31/20

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EMBASE, MEDLINE, CAPLUS

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 4022815 A1 (B. BRAUN MELSUNGEN AG), 23 January 1992 (23.01.92), the claims  --	1-6
A	Chemical Abstracts, Volume 110, No 3, 16 January 1989 (16.01.89), (Columbus, Ohio, USA), Ratnayake, W. M. N. et al, "Preparation of omega-3 PUFA concentrates from fish oils via urea complexation", THE ABSTRACT No 22481z, Fett Wiss. Technol. 1988, 90 (10), 381-386  --	1-6



Further documents are listed in the continuation of Box C.



See patent family annex.

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>Chemical Abstracts, Volume 122, No 3, 16 January 1995 (16.01.95), (Columbus, Ohio, USA), Christensen, Michael Soberg et al, "Lymphatic absorption of n-3 polyunsaturated fatty acids from marine oils with different intramolecular fatty acid distributions", THE ABSTRACT No 30475p, Biochim. Biophys. Acta 1994, 1215 (1/2), 198-204</p> <p style="text-align: center;">-- -----</p>	1-6

# INTERNATIONAL SEARCH REPORT

## Information on patent family members

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**28/08/95**

International application No.

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE-A1- 4022815	23/01/92	DE-A- 4042437	11/06/92